IN THE CLAIMS:

Claim 1 (currently amended): Configuration for acquisition and/or monitoring of medical data from a tissue portion of a person or animal, in particular a state of a cardiovascular and pulmonary system, blood values or blood composition, the configuration comprising at least one measuring sensor for the acquisition of the medical data and means for locating the measuring sensor adjacent the tissue portion comprising a clamping mechanism, wherein the measuring sensor comprising a light source which can emit light at least at two wavelengths, a light receiver for determining the light transmitted and/or reflected through the tissue portion and increasing means for increasing the optical Signal-to-Noise and/or Signal-to-Background ratio for the measuring sensor, the increasing means comprising amplitude modulating means for shifting the frequency of the light from the light source away from parasitic environmental light, the light source comprising at least one LED for emitting light at the at least two wavelengths and for directing the light emitted directly to the tissue portion, the light receiver including a photo detecting element, the light source is screwably connected to the clamping mechanism and the light source and the light receiver are positioned opposite one another and arranged, so that the distance between the light receiver and the light source can be varied in such a way that the beam path between the light source and the light receiver is always co-linear with the optical axis of the light source and light receiver ~~the means for locating the measuring sensor adjacent the tissue portion comprising a support for holding the at least one LED immediately adjacent one side of the tissue portion and for holding the photo detecting element immediately adjacent an opposite side of the tissue portion, the~~

~~increasing means comprising amplitude modulating means for shifting the wavelength of the light from the light source away from parasitic environmental light~~.

Claims 2-4 (canceled).

Claim 5 (currently amended): Configuration for acquisition and/or monitoring of medical data from a tissue portion of a person or animal, in particular a state of a cardiovascular and pulmonary system, blood values or blood composition, the configuration comprising at least one measuring sensor for the acquisition of the medical data and means for locating the measuring sensor adjacent the tissue portion, wherein the measuring sensor comprising at least one light source which can emit light at least at two wavelengths, at least one light receiver for determining the light transmitted and/or reflected through the tissue portion and at least one optical wavelength filter for optically wavelength filtering light from the at least one light source to the at least one light receiver, the light source consisting ~~essential~~ essentially of two LEDs for directing light emitted by the two LEDs directly from the LEDs to the tissue portion, the light receiver including a photo detecting element sensitive or tuned only to the wavelengths emitted by the light source.

Claim 6 (previously presented): Configuration according to claim 5, characterized in that the optical wavelength filter is an optical double band pass filter.

Claim 7 (canceled).

Claim 8 (previously presented): Configuration according to claim 1, including as part of the light receiver, at least a wavelength filter and/or a light trap for suppressing by geometric and/or optical means, parasitic contribution of environmental radiation in order to increase and stabilize signal/background ratio versus environmental conditions.

Claim 9 (canceled).

Claim 10 (previously presented): Configuration according to claim 5, comprising light source amplitude modulating or light source modulating means to shift the frequency of the emitted light.

Claim 11 (currently amended): Configuration according to claim 10, ~~comprising a~~ wherein the light source amplitude modulating means is configured to modulate the frequency of the emitted light[[.]] in a frequency range substantially outside of frequency of noise and/or environmental signals.

Claim 12 (currently amended): Configuration according to claim 10, ~~comprising a~~ wherein the light source amplitude modulation or light source modulating means is configured to shift the frequency of the emitted light in a range where environmental disturbances are substantially neglectable.

Claim 13 (currently amended): Configuration according to claim 10, ~~comprising a~~ wherein the means for light source amplitude modulating or light source modulating means

is configured to shift the frequency of the emitted light in a range of above 120 Hz, preferably above 500 Hz.

Claim 14 (currently amended): Configuration according to claim 5, wherein the means for locating ~~comprise~~ comprises mechanical fixing means for arranging the configuration in contact with the tissue portion, the mechanical fixing means guaranteeing that the beam path between the light ~~emitter~~ source and the light receiver is always co-linear with the optical axis of the light ~~emitter~~ source and the light receiver.

Claim 15 (currently amended): Configuration for acquisition and/or monitoring of medical data from a tissue portion of a person or animal, in particular a state of a cardiovascular and pulmonary system, blood values or blood composition, the configuration comprising at least one measuring sensor for the acquisition of the medical data and means for locating the measuring sensor adjacent the tissue portion comprising a clamping mechanism, wherein the measuring sensor comprising at least one light emitter which can emit light at least at two wavelengths, at least one light receiver for determining the light transmitted and/or reflected through the tissue portion and at least one optical wavelength filter for optically wavelength filtering light from the at least one light emitter to the at least one light receiver, the light emitter consisting essentially of two LEDs for directing light emitted by the two LEDs directly from the LEDs to the tissue portion, the light emitter and the light receiver are positioned opposite one another on two arms of the clamping mechanism, ~~Configuration according to claim 14, wherein the means for fixing include a rigid frame with two U- or V-like arranged arms, where in the area of the one arm~~

~~end the photo detector is arranged, and at the area of the other arm end a clamping mechanism within~~ the LED is arranged screwably connected to the clamping mechanism, so that the distance between the light receiver and the light ~~transmitter~~ emitter can be varied in such a way that the beam path between the light emitter and light receiver always is co-linear with the optical axis of the light emitter and light receiver.

Claim 16 (currently amended): Configuration according to claim 15, wherein the arm of ~~the frame wearing~~ the [[clamp]]clamping mechanism with the light emitter is removably attached to the frame of the clamp mechanism, the connection between the frame and the removable arm being a snap-like mechanism to ensure that the removable arm is fixed to the frame in a constant, predetermined manner.

Claim 17 (previously presented): Configuration according to claim 5, wherein the measuring sensor is a pulsoximetric sensor.

Claim 18 (currently amended): Method for measuring and/or monitoring of medical data, in particular the state of the cardiovascular and pulmonary system, blood values or blood composition, comprising

providing at least one light receiver,

providing ~~a pulsoximetric sensor having~~ at least one light source consisting essentially of two LEDs screw-ably connected to a clamping mechanism, so that the distance between the light receiver and the light source can be varied in such a way that the beam path between the light source and the light receiver is always co-linear with the

optical axis of the light source and light receiver,

emitting from the LEDs ~~which~~ the two wavelengths of light ~~is emitted~~, the light being transmitted and/or reflected through a tissue portion of a person or an animal,

directing the light emitted through beam shaping elements into substantially the same location on the tissue, and

determining the light [[and]]being received by the at least one light receiver for determining the light transmitted and/or reflected through the tissue portion, ~~the light from the light source, being directed by using beam shaping elements, directly from the LEDs, through the beam shaping elements and into substantially the same location on the tissue and~~ the light receiver being a photo detecting element.

Claims 19-22 (canceled).